## REMARKS

**Rejections under 35 U.S.C. § 102(b)**

Claims 7-10, 12, 14, 17, 19, 21, 23-25 and 28 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Statutory Invention Registration No. H1,870 of Mizata, *et al.* Applicant claims a cross-linkable expandable blank (claims 7 and 8) and a cross-linked expanded safety support made by a claimed process that includes forming the blank (claim 10). The blank contains both water and a blowing agent as claimed components. (claims 7 and 8). The expanded support comprises a blowing agent. (claim 10).

As the MPEP § 2131 provides: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

Applicant respectfully asserts that a *prima facie* case of anticipation has not been presented because Mizata fails to disclose each and every element as set forth in the claims of the Applicant. Specifically, Mizata fails to disclose a blank comprising water or an expanded support comprising a blowing agent. Applicant specifically claims a blank comprising water in independent claims 7, 8 and an expanded support comprising a blowing agent in claim 10.

The Examiner states that Mizata discloses water in the blank and supports this assertion by citing that portion of Mizata that discloses the test for determining whether cells are closed or open, *i.e.*, ASTM D1056. (Office Action, p. 3, ¶6). However, Mizata merely states:

> Furthermore, since the filling material is a closed cell elastic foam having a water absorption *as determined by the water absorption test prescribed in ASTM D1056 of 5% or lower* (so-called closed cell type elastic foam), air leakage is less apt to occur and cushioning properties are maintained.

Mizata, col. 2, lines 59-63.

Indeed, elsewhere Mizata further discloses:

> The filling material consists of an elastic foam containing butyl rubber or a halogenated butyl rubber and having a closed-cell structure (a closed-cell type elastic foam) with a water absorption

> as determined by the water absorption test prescribed in ASTM D1056 of 5% water or lower with the exception of the thin rubber layer which is formed on the surface of the filling material.

Mizata, col. 4, lines 41-48.

Mizata only discloses *that the cells are closed as determined by the ASTM D1056 water absorption test.* Attached as evidence of this assertion are the first page and pages 24-25 of a book written by John Bonforte of Monmouth Rubber and Plastics Corp., copyrighted 1999-2001, and entitled *The Joy of Rubber and Plastics*. As Bonforte states:

> There are basic physical requirements that all closed cell rubbers must have in order to meet ASTM D1056. . . . 3.) Water absorption maximum by weight 5% for the higher density material and 10% for the lower density material.

Bonforte, pp. 24-25.

Therefore, Mizata does not disclose an apparatus containing water but merely discloses an apparatus having closed cells *as defined by ASTM D1056, i.e.*, a closed cell structure *as determined by the water absorption test prescribed in ASTM D1056 of 5% or lower.*

Additionally, the Examiner points out that Mizata discloses a material having a blowing agent in Table 1 and therefore asserts that Mizata discloses an expanded support comprising a blowing agent. (Office Action, p. 3, ¶ 6). However, Table 1 of Mizata merely discloses "a representative formulation *for a composition for producing* the filler material is shown in Table 1." (Mizata, col. 5, lines 7-8). [Emphasis added]. Therefore, while the material *that is to be foamed* has a blowing agent as disclosed by Mizata in Table 1, Mizata does not disclose an expanded blank still having a blowing agent after being expanded, which is what is claimed by Applicant in claim 10.

Because Mizata does not disclose a closed cell structure comprising water nor does Mizata disclose an expanded blank comprising a blowing agent, Applicant asserts that a *prima facie* case of anticipation has not been presented and therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of independent claims 7, 8 and 10 as well as all claims depending therefrom.

Claims 7-10, 14, 17, 21, 23-24 and 28 stand rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U,S,C, 103(a) as being obvious over U.S. Patent No. 6,787,607 of Sahnoune, *et al*. As noted above, Applicant claims a cross-linkable expandable blank (claims 7 and 8) and a cross-linked expanded safety support made by a claimed process that includes forming the blank (claim 10). The blank contains both water and a blowing agent as claimed components.

In addition to the requirements for a *prima facie* case of anticipation as discussed above, to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

Applicant respectfully asserts that a *prima facie* case of anticipation, or in the alternative, of obviousness, has not been presented because the cited prior art fails to disclose, teach or suggest each and every limitation contained in the claims of Applicant. Specifically, Sahnoune fails to disclose a blank comprising water and a blowing agent or an expanded support comprising a blowing agent.

The Examiner points out that the blowing agent is disclosed by Sahnoune as possibly being water generating and that the water absorption test indicates that the resin composition contains 1.8% water. (Office action, p. 4, ¶ 8). Applicant respectfully points out the such disclosure does not include a blank comprising water and a blowing agent. .

Sahnoune discloses (1) that the combined thermoplastic elastomer and acrylic-modified PTFE were fed into an extruder capable of maintaining the melt temperature of the material and then the blowing agent was added and mixed in; (2) the pressure of the mix was maintained at a pressure sufficient to prevent premature foaming; (3) the mixture was passed through a die or other appropriate outlet, *where foaming occurred* and then (4) the product was cooled in air or in a water mist. (Sahnoune, col. 5, lines 29-35). [Emphasis added].

Therefore, Sahnoune merely discloses a product made after foaming occurred, not a *product that still contains the blowing agent and water*. There is no mention or disclosure by Sahnoune that after the product has been formed there is any water or blowing agent left in the product. Before the product is formed, the material is just a molten mixture of materials containing the blowing agent.

Furthermore, as discussed above, the fact that Sahnoune discloses that the material has a water absorption of less than 5% does not mean that the material contains water, only that the material can be defined as closed cell. Without that interpretation of the water absorption data cited by the Examiner, there is no disclosure, teaching or suggestion by Sahnoune that the material is a closed cell material.

Therefore, because Sahnoune fails to disclose, teach or suggest neither a blank nor any other article comprising both water and a blowing agent, or an expanded blank comprising a blowing agent, but instead merely discloses a mixture of components that may be formed into an article, Applicant asserts that a *prima facie* case of obviousness or anticipation has been made. Reconsideration and withdrawal of the rejection of independent claims 7, 8 and 10 as well as dependent claims 14, 17, 21, 23, 24, and 28, which depend therefrom, is respectfully requested.

Claim 7 and claims 24-27 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,567,742 of Park. Applicant claims a cross-linkable expandable blank comprising water and a blowing agent. Park discloses a foamed material that is a low density, dimensionally stable, extruded propylene polymer foam.

Applicant respectfully asserts that a *prima facie* case of anticipation has not been presented because Park fails to disclose each and every element as set forth in the claims of the Applicant. Specifically, Park fails to disclose a blank comprising water.

The Examiner cites Park for disclosing that water is used as a blowing agent with or without CO2. (Office Action, p. 7, ¶ 10). However, such is not what Applicant claims. Applicant claims an expandable blank comprising water and a blowing agent. (Claim 7).

Park discloses:

> After incorporation of the blowing agent, the foamable gel is typically cooled to a lower temperature to optimize physical characteristics of the foam product. The gel is then extruded through a die of desired shape to a zone of lower pressure to form the foam product.

Park, col. 4, lines 60-64.

Therefore, Park merely discloses a gel that contains the blowing agent and that this gel is then foamed to form the product. Parks does not disclose that the product contains either water

or blowing agent. Applicant claims a product (expandable blank) comprising both water and a blowing agent.

Because Parks fails to disclose each and every element as set forth in Applicant's claim, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 7 as well as of dependent claims 24-27 that depend therefrom.

**Rejections under 35 U.S.C § 103(a)**

Claims 11, 13, 15, 18, 20, 22, 26 and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Statutory Invention Registration No. H1,870 of Mizata, *et al.* as applied to claim 7 and further in view of U.S. Patent No. 6,135,180 of Nohara.

To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

Applicant asserts that a *prima facie* case of obviousness has not been presented because the cited prior art fails to teach or suggest each and every limitation of the pending claims. Specifically, the cited prior art fails to disclose an expanded support comprising azobisformamide in an amount greater than 1 phr. While use of blowing agents are disclosed in the cited prior art to obtain a foamed material, Applicant has not found and the Examiner has not pointed out where in the prior art the *foamed product still contains azobisformamide.*

Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of independent claim 11 as well as the rejection of dependent claims 13, 15, 18, 20, 22, 26 and 27 that dependent either directly or indirectly from independent claims 7 or 11.

Claims 12, 19 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,787,607 of Sahnoune, *et al.* and further in view of U.S. Patent No. 5,939,464 of Wang. Claims 12, 19 and 25 are dependent claims that depend, either directly or indirectly, from independent claims 7 or 10.

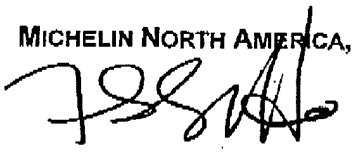
Applicant has requested herein the reconsideration and withdrawal of all the rejections of independent claims 7 and 10. Therefore, in reliance on those requests, Applicant respectfully

requests reconsideration and withdrawal of the rejection of dependent claims 12, 19 and 25 that depend therefrom.

Applicant respectfully asserts that all claims are now in condition for allowance and requests the timely issuance of the Notice of Allowance. If the Examiner believes that a telephone interview would expedite the examination of this pending patent application, the Examiner is invited to telephone the below signed attorney at the convenience of the Examiner. In the event there are any fees or charges associated with the filing of these documents, the Commissioner is authorized to charge Deposit Account No. 13-3085 for any necessary amount.

Respectfully submitted,

MICHELIN NORTH AMERICA, INC.



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**Attachment**: *The Joy of Rubber and Plastics*, pp. 1, 24-25.

# The Joy Of Rubber & Plastics

## PREFACE

This book was written for all of us who grew up in a time when closed cell sponge rubber was a taboo subject. One which we dare not ask either our parents or grandparents to explain, let alone a sales manager. If you are like most people from our generation, you had to learn about closed cell sponge on the streets or in dark alleys. Even after we progressed into our respective business careers little, if any, information was available as to the basic facts of how closed cell sponge is made and used. This book is an attempt to bring this verboten subject out of the closet and perhaps maybe some day even into the classroom.

Chapter One will be a definition of terms. Before going into a brief description of what closed cell sponge is and how it is made, it is important that certain basic terms used in the industry are defined. Keep in mind when reading these definitions that they have often been misused and that you are probably accustomed to hearing them used in the wrong way. While your proper understanding of these terms is necessary, the most important point is that your technical communication with the factory be correct.

**Written by:**
***John M. Bonforte, Sr.***
**MONMOUTH RUBBER & PLASTICS CORP.**

## COMPRESSION SET

Perhaps one of the most misused requirements on cellular rubber specifications is the fluid immersion test. By that I mean, as a practical matter, very few applications where cellular rubber products are used require that the material have resistance to gasoline or oil other than in a very casual and insignificant way. Therefore, special care should be taken to question customer requirements in detail for fluid immersion to determine if the immersion required is applicable for the application or use. We have been successful at Monmouth Rubber in pointing out to numerous customers where they had severe oil requirements as part of their specifications, that by deleting that requirement, significant savings could be realized without any compromise whatsoever on product performance. One typical example is a customer that makes hot air ducts. The print which specified the duct gasketing had a requirement for oil immersion. It was pointed out to the customer that this particular aspect of the spec was not relevant to the application. The customer agreed and it was deleted from the print with a savings of 25% on the cost of the gasket with no decrease in product performance. Often times theses specifications find their way onto subsequent prints within a company and then company to company mostly due to the basic lack of knowledge in industry on how to properly specify a cellular rubber product.

## SPECIFICATIONS

The bible specification for flexible closed cell materials is ASTM-D-1056, the latest revision being -91. This specification is titled "SPONGE AND EXPANDED CELLULAR RUBBER PRODUCTS." Basically all other closed cell specifications are an off shoot in one form or another of ASTM D1056. A thorough understanding of ASTM-D-1056 will go a long way toward clearing up a lot of the confusion which exists in the field when attempting to sell and/or specify . closed cell products. For example, GM 1379 and SAE J18 are essentially a copy of ASTM-D-1056. Other typical closed cell specs are Mil-R-6130, Mil-C-3133 and Mil Std. 670. These specs are also basically off shoots of ASTM-D-1056. There are basic physical requirements that all closed cell rubbers must have in order to meet ASTM-D-1056.

These requirements are as follows:

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|---|
| 1.) A hardness or compression deflection. For example, 2 to 5 PSI. |
| 2.) Oven Aging with a resultant change in original physical limits being ± 30%. |
| 3.) Water absorption maximum by weight 5% for the higher density materials and 10% for the lower density materials. |

These three basic requirements are then modified by suffix letters. Some of the suffix letters are specific as to their requirements. Others carry the notation "Values to be arranged between the supplier and the purchaser." A detailed understanding of what these requirements are can be had by studying ASTM-D-1056.

One overriding factor that causes probably 80% of the confusion on understanding ASTM D 1056 is the grade numbers and their meaning changes under the different year revisions of the spec. As a member of the ASTM D 1056 committee that writes and reviews this specification, we were responsible for compiling an ASTM cross reference chart for the years as noted, a copy of which is on the next page. By Dialing Durafoam Direct at 888-FOAM-888 Ext. 12, we can help you walk through any confusion or misunderstanding that still exists or in any other area that you have a question.